COMPETENCY BASED TRAINING: AN EVALUATION OF A POST-SECONDARY TEACHER EDUCATION PROGRAM

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Abstract: The purpose of this study was to evaluate performance-based teacher education (PBTE) in Arkansas, United States. PBTE is an approach to teacher education in which a person is required to demonstrate essential teaching skills in an actual teaching situation. It is a competency based education program for individuals who plan to be instructors at postsecondary technical institutes. The sample was 74 technical instructors at 11 postsecondary institutes in Arkansas. The competency categories rated highest by the instructors were instructional planning, instructional evaluation, serving learners with special/exceptional needs, and teaching adults.

INTRODUCTION

Performance based teacher education (PBTE) is a system which introduces teaching skills in an educational environment and requires teachers to demonstrate knowledge of these skills in a classroom or lab setting. "Actual performance of the tasks insures that the teacher has not only the knowledge required, but also the ability to perform the competencies (teaching skills or tasks) that are essential to successful teaching" (Hamilton & Quinn, 1981, p. 7). PBTE is a training program that is individualized, focuses on outcomes and allows flexible pathways for accomplishing the outcomes. It makes clear what is to be achieved and the standards by which the achievements are to be measured (Kerka, 1998). PBTE requires more planning and organization than traditional education as well as an extensive process of identifying relevant skills needed in a teaching position, organizes those skills so that learning activities can be developed, requires hands on materials, delivers instruction with nontraditional methods, and requires extensive record keeping (Foyster, 1990).

PBTE in Arkansas Technical Institutes

The approach to PBTE in Arkansas technical institutes focuses on competency based education for individuals who plan to be instructors as well as those who are already instructors. The materials used for this program are a series of modules developed by the Center for Vocational Education located at the Ohio State University. The design of the materials was funded and sponsored by the U.S. Office of Education and the National Institute of Education.

This research-based program uses 132 separate learning packages, called modules, which focus on 400 professional competencies found to be important to occupational specialty instructors. They are designed for use by those responsible for professional development and teacher training. Each module was extensively field tested in staff development and teacher education programs at

18 institutions of higher education. The evaluations and field tests resulted in self-directed learning experiences that integrate theory and application. After completing the self-directed experiences, the instructors demonstrate the application of the theoretical information in an actual classroom setting (Fardig, Norton & Hamilton, 1977; Hamilton & Quinn, 1981).

In 1982 the Arkansas Department of Education, Vocational Technical Education Division, began a professional development program for all instructors hired into the state's postsecondary technical school system. The purpose of the program was to provide professional development opportunities for the instructors teaching in technical areas. The PBTE program developed by the National Center for Research in Vocational Education addressed these teaching skills (Andrew, 1987). All instructors in the state system were either occupational specialists hired directly from industry to teach technical courses in areas of trades, literacy, business, health, and academic skills or trained as content area secondary teachers. Their students were training to enter industry jobs.

A university vocational teacher educator coordinated the Arkansas PBTE program. The primary responsibility of this teacher educator was to observe instructors demonstration of knowledge, skills and attitudes required to perform a given teaching competency. The teaching competency areas identified within the PBTE program were as follows:

Category A: program planning, development and evaluation

Category B: instructional planning

Category C: instructional execution

Category D: instructional evaluation

Category E: instructional management

Category F: guidance

Category G: school-community relations

Category H: student vocational organizations

Category I: professional role and development

Category J: coordination of cooperative education

Category K: implementing competency based education

Category L: serving learners with special/exceptional needs

Category M: assisting students in improving their basic skills

Category N: teaching adults

PURPOSE OF THE STUDY

The purpose of this study was to evaluate the usefulness of instructional materials used in the Performance Based Teacher Education (PBTE) program used in Arkansas. These materials were the 132 modules developed by the Center for Vocational Education.

METHOD

Sample

The participants in this study were all technical instructors at all 11 postsecondary technical institutes in Arkansas who were actively involved in the PBTE program. The instructors included in this study were: (a) Trade -- those teaching welding, electronics, mechanics, automotive service,

drafting, air conditioning and refrigeration, industrial maintenance, tool and dye technology, industrial processing and diesel technology; (b) Literacy -- those teaching adult basic education; (c) Business -- those teaching computer information systems, accounting, computer applications, business education, and office technology; (d) Health -- those teaching nursing, medical assisting, surgical technology, and applied health; and (e) Academic -- those teaching math and communications. Instructors who had not participated in the program within the past two years were not surveyed.

Instrumentation

The survey instrument included a complete list of 132 PBTE modules, which included one or more teaching competencies. Using the official records of the University resource person, an individualized survey form was developed for each participant. The modules completed by each instructor were highlighted in yellow on the survey form. Participation in the survey was voluntary and responses were kept confidential. Each instructor was asked to respond only to those modules they had completed. They responded on a five-point Likert type scale ranging from "very helpful", "helpful", "somewhat helpful", "slightly helpful" to "not helpful". Data were analyzed by giving the "very helpful" category a rating of 5 and decreasing to the value of 1 for the rating of "not helpful". In addition, a short demographic section was included which asked for area of instruction, number of years as an instructor, years in the occupation and level of formal education. The instrument was not tested for reliability or validity since it was a complete listing of all teaching modules, which made up the total PBTE program.

FINDINGS

One hundred thirty seven (137) surveys were distributed to technical instructors at 11 technical institutes. Seventy-four (54%) were returned. Twenty-nine of the respondents were trade instructors, 19 were literacy instructors, 6 were business instructors, 5 were health instructors and 11 were academic instructors. Four respondents did not indicate their teaching area. Their years of experience as an instructor ranged from 1 to 23 years, with the average being 6.4 years. The years of occupational experience ranged from 0 to 50 with the average at 11.5 years. None of the respondents has less than a high school diploma. Nineteen had a high school diploma, 11 had an associate degree, 24 had a bachelor's degree, and 16 had a master's degree. One indicated other, and 3 did not indicate a level of formal education.

The mean response for the total group of participants was the highest, at 4.1, for the instructional planning competencies (Category B). This was followed by three categories of competencies with a mean of 4.0. These were: instructional evaluation (Category D); serving learners with special/exceptional needs (Category L); and teaching adults (Category N). The mean score for the total group was 3.8 for all 14-competency categories.

The trade instructors rated the instructional planning competencies (Category B) the highest with a mean of 4.4. The second highest rating for trade instructors was for the instructional evaluation competencies (Category D) with a mean of 4.2. This was followed by the instructional execution competencies (Category C) and the serving learners with special/exceptional needs (Category L) both with a mean of 4.1. The mean responses by the trade instructors for all 14-competency categories were 3.8.

The literacy instructors rated the teaching adults competencies (Category N) the highest with a mean of 4.0. The next highest rated by literacy instructors were the coordination of cooperative education competencies (Category J) with a mean of 3.8. This was followed by the serving learners

with special/exceptional needs competencies (Category L) and the assisting students with improving their basic skill competencies (Category M) both with a mean of 3.7. The mean response by the literacy instructors for the total 14 competency categories was 3.3.

The business instructors rated the serving learners with special/exceptional needs competencies (Category L) the highest with a mean of 4.3. This was followed by the implementing competency-based education competencies (Category K) with a mean of 4.2. Next were the instructional evaluation competencies (Category D), assisting students in improving their basic skills (Category M) and the teaching adults competencies (Category N) all with a mean of 3.7. The business instructors rated all 14 competencies categories at 3.6.

The health instructors rated the instructional evaluation competencies (Category D) the highest with a mean of 4.9. Next highest for health instructors were the instructional planning competencies (Category B) with a mean of 4.7. This was followed by the coordination of cooperative education competencies (Category J) with a mean of 4.6. Next were the instructional execution competencies (Category C) with a mean of 4.5. The mean response for the health instructor for all 14-competency categories was 4.5.

The academic instructors rated two competency categories the highest with a mean of 4.4. Those were school-community relations (Category G) and serving learners with special/exceptional needs (Category L). The second highest were the teaching adults competencies (Category N) with a mean of 4.3. This was followed by the instructional planning competencies (Category B) and the guidance competencies (Category G) both with a mean of 4.2. The academic instructors had a mean score of 4.0 for all 14 areas of competency categories.

The results of the analysis of variance performed on the years of teaching experience revealed the following: Academic instructors with 1 to 10 years of teaching experience had a significant higher perception of the program planning, development, and evaluation competencies (Category A) than those with more than 10 years of teaching experience ($p = .0014$). Health instructors with 11 or more years of teaching experience had a significant higher perception of the program planning, development, and evaluation competencies (Category A) than those with less teaching experience ($p = .0000$). Business instructors with more than 15 years of teaching experience had a significant higher perception of the program planning, development, and evaluation competencies (Category A) than those with 1 to 15 years of teaching experience ($p = .000$). There was no significant difference in years of teaching experience and all other categories of modules.

The results of the analysis of variance performed on the years of occupational work experience reveled that trade instructors with 1 to 30 years of occupational work had a significant higher perception of the program planning, development, and evaluation competencies (Category A) than those with over 30 years of work experience ($p = .0210$). There was no significant difference in occupational work experience and all other categories of modules.

The level of education did reveal significance difference between groups. The instructors with an associate degree had a significant higher perception of the program planning, development, and evaluation competencies (Category A) than those with any other level of education ($p = .0424$). There was no significant difference in level of education and all other categories of modules.

The analysis of variance did reveal a significance difference in teaching area ($p< .05$). The health instructors had a significantly higher perception of the usefulness of competencies in seven of the categories (A, B, C, D, E, J, K). The academic instructors had a significantly higher perception of the competencies in three of the categories (G, I, L) than all other participants. The remaining categories (F, H, M, N) revealed no significant differences by teaching areas.

DISCUSSION

There were 4 competency categories, which were consistently rated the highest, at the helpful level. The serving learners with special/exceptional needs competencies (Category L) were rated the highest. Specific competencies in this category consisted of identifying and diagnosing exceptional learners, planning instruction, providing appropriate instructional materials for exceptional learners, modifying learning environment for exceptional learners, using instructional techniques to meet needs of exceptional learners and assessing the progress of exceptional learners. It is quite possible that participants viewed themselves as being prepared to teach traditional students; however, they felt inadequate to teach special/exceptional students. Therefore, they viewed these competencies as being helpful.

A second category consistently rated high was the instructional planning competencies (Category B). Competencies in this area included determining needs and interest of student, developing performance objectives, developing a unit of instruction, developing a lesson plan and selecting instructional materials. It is possible that these groups of competencies were viewed as helpful since they are basic instructional skills, which are needed on a daily basis by instructors.

The next category frequently rated high was the instructional evaluation competencies (Category D). Competencies included were establishing student performance criteria, assessing student performance, determining student grades and evaluation instructional effectiveness. These competencies may have been regarded as helpful since instructors were concerned about grading students in a fair and impartial manner. These competencies help with establishing and conducting student evaluation.

The last category that was rated consistently high was the teaching adults competencies (Category N). This area includes competencies such as determining adult training needs, planning instruction for adults, managing the adult instructional process, and evaluating the performance of adults. These competencies may have been rated high since many instructors felt they needed help with the overall instruction of adults due to their experiences with teaching in pedagogical rather than the andragogical areas.

There were some differences of perceptions of the program planning, development, and evaluation competencies (Category A) regarding teaching experience, years of occupational work experience and level of education. Since the instructors are moving from industry or other levels of education to postsecondary teaching, they may be more responsive to those competencies related to planning an overall program of instruction.

Health instructors had a significantly higher perception of modules related to the instructional process and clinical instruction on the job site than other instructors. None of the health instructors in this study had formal training in teacher education. It can be assumed that this is why they had a higher perception of modules than the other instructors.

Academic instructors had a higher perception of the modules on school/community relations, professional role and development and serving learners with special/exceptional needs than other instructors. The change from a public school setting to a postsecondary setting with adult and community involvement may have attributed to their perceptions in this area.

CONCLUSIONS

Of the 14 competency categories in the Arkansas PBTE program, the instructors found that the areas that contributed the most to their teaching development were instructional planning,

instructional evaluation, serving learners with special/exceptional needs and teaching adults. All of these categories were perceived as being helpful.

The results of this study show that instructors found that all the modules were a helpful form of training. This indicates that a competency-based program such as PBTE was accepted by instructors. PBTE offers a self-paced, individualized way to improve the teaching skills of instructors.

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